We claim:

1. A process for the liquid phase epoxidation of a normally liquid olefinic organic compound (I) by an aqueous or anhydrous organic hydroperoxide (II), using a solid catalyst comprising nano–size gold particles (III), the process comprising contacting a liquid mixture comprising I and II with III in a stirred batch reactor and then removing the catalyst from the reaction mixture and separating the reaction products and unconverted reactants from the reaction mixture.
2. A process as claimed in claim 1 wherein the catalyst is recycled to the reactor.
3. A process as claimed in claim 1 wherein the mole ratio of organic hydroperoxide (II) to olefinic organic compound (I) is in the range from 0.1 to 10, the weight ratio of catalyst (III) to olefinic organic compound (I) is above 0.001, the reaction temperature is in the range of 25°C to 250°C, and the reaction time is in the range from 0.1 h to 100 h.
4. A process as claimed in claim 1 wherein the liquid olefinic compound is selected from the group consisting of styrene, substituted styrene, cyclohexene, substituted cyclohexene, 1–octene, other linear or non–linear liquid olefins, norbornene, cyclopentene, cyclooctene, allyl chloride, allyl alcohol and vinyl cyclohexene.
5. A process as claimed in claim 3 wherein the mole ratio of organic hydroperoxide (II) to olefinic organic compound (I) is between 0.3 and 3.0.
6. A process as claimed in claim 3 wherein the weight ratio of catalyst (III) to olefinic organic compound (I) is between 0.01 and 0.5.
7. A process as claimed in claim 3 wherein the temperature is between 50C and 150°C.
8. A process as claimed in claim 3 wherein the reaction period is between 1 and 30h.
9. A process as claimed in claim 1 wherein the organic hydroperoxide is selected from the group consisting of tertiary butyl hydroperoxide, tertiary amyl hydroperoxide, cumene hydroperoxide, ethyl benzene hydroperoxide, cyclohexyl hydroperoxide and methyl cyclohexyl hydroperoxide.
10. A process as claimed in claim 1 wherein the catalyst comprises nano–gold supported on a metal oxide selected from the group consisting of MgO, CaO, BaO, SrO, Yb_2O_3, TiO_2, ZrO_2, HfO_2, V_2O_5, CrO_3, MoO_3, WO_3, MnO_2, Fe_2O_3, CoO, NiO, CuO, ZnO, CdO, B_2O_3, Al_2O_3, Ga_2O_3, Eu_2O_3, Tl_2O, SiO_2, SnO_2, Sb_2O_3 and Bi_2O_3.
11. A process as claimed in claim 10 wherein the concentration of gold in the solid catalyst is between 0.1 wt% and 10 wt%.